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09/737,280	12/15/2000	Tsuyoshi Moriyama	CANO:016	7943

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EXAMINER

SHAPIRO, JEFFERY A

ART UNIT PAPER NUMBER

3653

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Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 09/737,280	Applicant(s) MORIYAMA ET AL.	
	Examiner Jeffrey A. Shapiro	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/5/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23, 47-65, 75, 76 and 78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23, 47-65, 75, 76 and 78 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-23, 47-65, 75, 76 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al in view of Nyffeneger. Inoue et al discloses the following.

As described in Claims 1, 47-49, 54, 55, 57, 58, 75, 76 and 78;

- a. an inserter tray (see figure 30, element (2002)) for having insert sheets stacked thereon;
- b. said insert sheets being inserted between the recording sheets transported from an image forming apparatus having an image forming section (note figure 5a, which no. 4 indicates marking);
- c. a sheet feeding controller (1041) that controls the feeding of the insert sheets stacked on the plurality of inserter trays (see figure 30, 2002, noting trays 1-4); and
- d. a sheet feeding mode setting device (2000 and 2002) that sets one of a plurality of sheet feeding modes defining respectively;
 - i. a plurality of stacking manners (see sorting and finishing modes such as stack or collate, for example in element 2000) for

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stacking plural types of the insert sheets on said plurality of inserter trays;

ii. a plurality of sheet feeding manners (see 2006 of figure 30) corresponding respectively to said stacking manners and employed by said sheet feeding controller;

e. *wherein said feeding modes includes at least a first sheet feeding mode in which the insert sheets are sequentially fed from a different inserter tray every time an insert sheet is fed,*

f. *and a second sheet feeding mode in which the insert sheets are sequentially fed from only one of the inserter trays unless the one inserter tray is empty;*

As described in Claims 2 and 48;

g. said sheet feeding controller controls feeding of the insert sheets stacked on said plurality of inserter trays in accordance with the sheet feeding mode set by said sheet feeding mode setting device; (See 2000, 2002, above, noting that these control the feeding of the sheets inserted. Note also that control documents and files are routinely used by those ordinarily skilled in the art. See also Cordery et al, col. 6, lines 65-67 and col. 7, lines 1-6 and 20-25);

As described in Claims 3, 54 and 55;

h. said plurality of sheet feeding modes include at least a first sheet feeding mode in which a same type of insert sheets are stacked on each of said plurality of insert trays, and

i. a second sheet feeding mode in which plural types of said insert sheets are stacked together on at least one of said plurality of inserter trays (see 2006);

(Note that the system of Inoue et al or Nyffenegger et al performs these functions. Note also that it can be considered a matter of design choice as to which feeding mode is used, based on the requirements of the printing job)

As described in Claims 4, 54 and 55;

j. wherein in said first sheet feeding mode, said sheet feeding controller sequentially feeds the insert sheets sheet by sheet from one of said plurality of inserter trays, and then changes an inserter tray from which the insert sheets are to be fed, from said one to a next one of said plurality of inserter trays (note that this is what a collating function performs);

As described in Claims 5, 54 and 55;

k. wherein in said second sheet feeding mode, said sheet feeding controller sequentially feeds the plural types of said inserter sheets stacked together on said at least one of the inserter trays sheet by sheet

starting from a top page sheet of the insert sheets (again, the systems of both Inoue et al and Nyffenegger et al perform these functions);

As described in Claims 6, 51, 52, 53, 58 and 60-65;

l. an insert sheet number determining device that determines a total number of the insert sheets to be inserted between the recording sheets;

(Note that Inoue et al provides several counters that count sheets. See col. 34, lines 25-31 and col. 36, lines 19-21 and col. 40, lines 54-57.)

m. a sheet stacking detector that detects presence or absence of the insert sheets stacked on each of said plurality of inserter trays. (Note that Nyffenegger et al has the ability to insert various numbers of documents in a set and can change this number on the fly. If there were not a count of the number of inserts, the system would not work.)

n. a comparator operable in said first sheet feeding mode to compare the total number of the insert sheets determined by said insert sheet number determining device with a total number of inserter trays on which presence of the insert sheets stacked thereon is detected by said sheet stacking detector (note Inoue has a count of sheets desired and a count of sheets produced);

o. and a warning device that gives a predetermined warning if a result of the comparison by said comparator shows that the total number of the insert sheets does not coincide with the total number of the inserter trays (note that Nyffenegger discloses a multitude of product sensors (C1-C12)

which detect jams. Also note that Inoue discloses a comparison of number of sheets desired versus number of counts produced, and that if a jam occurs, shutting down the machine, this display, as illustrated in figures 34a-c, for example, serves as a warning);

As described in Claim 7;

p. said insert sheet number determining device determines the total number of the insert sheets through manual input by a user (note that both systems of Inoue and Nyffenegger disclose both manual and automatic modes and that the counting system work under both manual and automatic situations);

As described in Claims 8 and 49;

q. said image forming apparatus comprises an original reading device that reads images on a set of originals for forming images on the recording sheets (note that Inoue discloses a printing apparatus—see col. 1, lines 5-15); and

16. a color original counter that recognizes color originals from said set of originals based on the images read by said original reading device and counts a number of the recognized color originals (see figure 31d of Inoue, for example); and

r. wherein said insert sheet number determining device determines the number of color originals counted by said color original counter as the total number of insert sheets to be inserted between the recording sheets;

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(Note that it be obvious to use the counting means to count the number of sheets of color, and this would be expedient considering that a vendor might want to charge more for color copies than regular copies. Note also that there are no limitations which indicate that color-copies numbers are separated from the total number of copies);

As described in Claim 9;

s. an image formation inhibiting device that inhibits image formation by said image forming section while said counting of color originals is being carried out by said color original counter;

As described in Claims 10 and 50;

t. a predetermined information reading device that reads predetermined information indicative of said sheet feeding mode recorded on a predetermined one of the insert sheets in advance; and

u. said sheet feeding mode setting device sets said sheet feeding mode based on said predetermined information read by said predetermined information reading device; (Note that Nyffeneger uses control documents and that it would be obvious to use control documents with bar codes to control the system of either Nyffeneger or Inoue automatically. See Scullion et al (US 4,734,865), col. 6, lines 40-60, col. 7, lines 44-65, col. 8, lines 4-8, col. 57, lines 27-40, and col. 58, lines 5-20.)

As described in Claim 11;

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- v. said predetermined information is recorded at a location outside an image formed region of said predetermined one of the insert sheets (note that this is a matter of design choice);

As described in Claim 12;

- w. said predetermined information is recorded on a leading edge portion of said predetermined one of the insert sheets (this is a matter of design choice);

As described in Claim 13;

- x. said predetermined one of the insert sheets is a top one of the insert sheets stacked on each of said plurality of inserter trays (note that it would be expedient to provide the predetermined sheet which controls the process on the top, so that it is the first sheet to be scanned);

As described in Claim 14;

- y. said predetermined information reading device is brought into a position close to the insert sheets to read said predetermined information (note that this is expedient as it is necessary to perform such a function);

As described in Claim 15;

- z. said sheet feeding controller comprises a driver for carrying out a sheet feeding operation for feeding the insert sheets stacked on said plurality of inserter trays;
- aa. said driver being disposed to drive said predetermined information reading device;

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As described in Claim 16;

- ab. said reading by said predetermined information reading device is carried out in synchronism with the feeding of the insert sheets by said sheet feeding controller;

As described in Claim 17;

- ac. said predetermined information reading device comprises at least one light reflection type sensor;
- ad. and said predetermined information comprises a mark with a color being different in brightness from color of said predetermined one of the insert sheets;

As described in Claim 18;

- ae. an error display device that displays failure to read said predetermined information by said predetermined information reading device;

As described in Claims 19, 48, 51, 55 and 59;

- af. a restacking detector that detects restacking of the insert sheets on said plurality of inserter trays; and
- ag. said sheet feeding mode setting device is responsive to failure to read said predetermined information by said predetermined information reading device, for suspending setting of the sheet feeding mode until the restacking of the insert sheets is detected;

As described in Claim 20;

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ah. said sheet feeding mode setting device is responsive to failure to read said predetermined information by said predetermined information reading device, for setting the sheet feeding mode through manual setting by a user;

As described in Claim 21;

ai. a recording sheet sheet feeding inhibiting device responsive to failure to set the sheet feeding mode based on said predetermined information read by said predetermined information reading device, for inhibiting feeding of the recording sheets;

As described in Claim 22;

aj. said sheet feeding mode setting device sets the sheet feeding mode through manual setting by a user;

As described in Claim 23;

ak. the insert sheets stacked on the plurality of inserter trays are fed so as to bypass said image forming section;

As described in Claim 56;

al. a restart terminal input terminal for instructing restart of a job;

Inoue does not expressly disclose, but Nyffenegger discloses using several or plural manual insert trays (a-n).

Both Inoue and Nyffenegger are considered to be analogous art because they both concern sheet feeding and associating.

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At the time of the invention it would have been obvious to one of ordinary skill in the art to have used several manual insert trays instead of a single insert tray in the system of Inoue, as taught by Nyffenegger.

The suggestion/motivation would have been to insert more than one insert on a stack of sheets. See Nyffenegger at col. 3, lines 31-46.

Therefore, it would have been obvious to combine Inoue and Nyffenegger in order to obtain the invention as described in Claims 1-23, 47-65, 75, 76 and 78.

3. Claims 1-23, 47-65, 75, 76 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nyffenegger et al. Nyffenegger et al discloses the following.

As described in Claims 1, 47-49, 54, 55, 57, 58, 75, 76 and 78;

- a. a plurality of inserter trays (hoppers ((a-d) or (n to n-1)) for having insert sheets stacked thereon;
- b. said insert sheets being inserted between the recording sheets transported from an image forming apparatus having an image forming section (note abstract, which indicates markings are used on control documents to indicate such information);
- c. a sheet feeding controller that controls the feeding of the insert sheets stacked on the plurality of inserter trays (see col. 1, lines 24-26); and
- d. a sheet feeding mode setting device that sets one of a plurality of sheet feeding modes defining respectively;

- i. a plurality of stacking manners (note that sorting and finishing modes such as stack or collate, for example, would appear to be obvious to include in such a system, note also that collating a single document instead of several in a set can be construed to be stacking—see also for example, Inoue et al) for stacking plural types of the insert sheets on said plurality of inserter trays;
 - ii. a plurality of sheet feeding manners (note abstract which indicates a number of variables can be changed by the system) corresponding respectively to said stacking manners and employed by said sheet feeding controller;
- e. *wherein said feeding modes includes at least a first sheet feeding mode in which the insert sheets are sequentially fed from a different inserter tray every time an insert sheet is fed (note that it is considered to be obvious to use the series of hoppers of Nyffenegger et al to feed a single document as the set passes by so as to create a full set—see col. 1, lines 36-42, col. 3, lines 31-46, noting that the base inserter includes several hoppers and selectively feeds inserts onto a set),*
- f. *and a second sheet feeding mode in which the insert sheets are sequentially fed from only one of the inserter trays unless the one inserter tray is empty (see col. 14, lines 14-28, noting particularly lines 16-19, which describes that the documents are fed to the next stage when that*

stage is empty—note that it is considered obvious to only feed from one of several feeders);

Response to Arguments

3. Applicant's arguments filed 4/5/05 have been fully considered but they are not persuasive. Applicant asserts that "neither Inoue nor Nyffenegger teaches selecting inserter sheets from two different types of modes..." Nyffenegger discloses a document processor that controls variables such as "the number of accumulated sets in the buffer, the number of sheets in a set being processed, the form length of sheets within a set being processed, and the speed at which a downstream base insertion machine can receive sets." Col. 3, lines 31-46 of Nyffenegger mentions that the base inserter has "insert hoppers 'a' through 'n' for selectively feeding inserts onto the compiled sets as the sets travel past on an insert track." Col. 13, line 1-col. 14, line 3 of Nyffenegger mentions that sensors C1-C12 are located along the buffer transport so as to track and monitor the sets as they are processed.

As Nyffenegger controls the inserting of the sheets selectively, by computer control (see col. 5, lines 30-60), and describes releasing from another stage when one stage is empty, it can be concluded that it would have been obvious to one of ordinary skill in the art to have used insert sheet modes since the entire process is entered into a computer and that it is well-known in the art to store and re-use algorithms for a particular setup. These algorithms can be construed to correspond with Applicant's sheet feeding modes and stacking manners.

Nyffeneger, col. 14, lines 14-28 describes releasing from a next stage or inserter when that stage is empty. It therefore also would have been obvious to continue to run Nyffeneger's system while reloading since when one stage is empty, inserts from another stage are used.

Regarding Inoue, note that figure 30 discloses various feeding modes and stacking manners. Note that the sorter has a "stack mode" under the "sorter" section and a "collate mode" under both the sorting and finishing sections. It would have been obvious to one of ordinary skill in the art to have used multiple inserters of Nyffeneger in the system of Inoue so that multiple sets of documents could be produced. Note also that Inoue's stack and collate modes correspond to stacking manners and that the paper tray section (2002) corresponds to Applicant's feeding modes.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey A. Shapiro whose telephone number is (571)272-6943. The examiner can normally be reached on Monday-Friday, 9:00 AM-5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald P. Walsh can be reached on (571)272-6944. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey A. Shapiro
Examiner
Art Unit 3653

June 27, 2005


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